

## TO IRRIGATE BEETS

### Well Equipped Farm Is Provided With Necessary Machinery.

After Seeding Is Done Most Important Factor Is Furrowing Out for Irrigation — Implements and Methods.

The well-equipped sugar beet farm is provided with a lot of machinery that becomes an absolute necessity. After the seeding is done the most important thing is the furrowing out for irrigation. One good scheme is to use a sled made of 6x8 inch timbers forty-two inches long as runners, spaced wide enough to straddle two rows, writes F. W. Roeding in Field and Fancy. These timbers are set to run on edge and are sharpened at the forward point and armed with old furrowing shovels which about fit them. The runners are securely spiked together at the back end with two-inch planks upon which the driver rides and are connected in front by a 4x4 timber, to which the draft is attached. Either one or two horses are used, two being preferable, as there is not so much danger of the sled shifting from its line.

This implement makes a smooth, even furrow without clogs to interrupt the flow. With it furrows can be placed in alternate rows or every row as desired. In the latter case a furrowed row would be straddled. More runners could be placed on the sled to furrow out more than two rows at a time, except that slight unevenness in the surface will prevent the making of as good furrows. Smooth furrows, especially for irrigating up the seed, are most essential and no other implement can be secured to give as good results as this home-made device. More crude forms are made of two straight limbs of cottonwood, five or six inches in diameter, for runners.

The two-row or four-row beet cultivator with long-winged furrowing shovels attached is probably more largely used in making furrows than any other implement. Ten acres a day can be covered with the four-row cultivator and five acres with the two-row implement with one or two horses and one man while preparing the field with the furrowing sled after cultivation requires about two or three times as much work. The advantage of the sled is in the lesser cost of the implement, which is a decided advantage on small fields and the better work in making furrows and distributing water. If at the time of irrigation the soil has become dry and hard, a cultivation with deer or bull tongues in the middles to loosen the packed soil will be found helpful, as it permits the making of good, deep furrows and overcomes the resistance which a dry, packed soil has to water.

When the furrows are made with the furrowing shovel a deer tongue or soil-loosening tool can be placed in front of the furrowing shovels and the whole operation completed at once. After the rows have been furrowed out it is necessary to prepare head ditches from which water can be turned into the furrows. This is accomplished by plowing out a ditch parallel to the field lateral which serves the area. The head ditch is then cut into sections with earth dams, each section serving a certain number of rows, according to the grade of the ditch and connected by a gate to the lateral ditch. The bank next to the furrows is cut for either one or two furrows and the water turned on.

By having head ditches the water can be well distributed and several sections can be running at the same time if there is sufficient water. The amount allotted to each furrow should be small so that it will run slowly and secure good saturation as well as prevent wetting the soil over the

seed. At intervals of 300 to 500 feet there should be cross ditches which will intercept waste water from the rows above them and also supply water to the lengths of rows below. It is a mistake to attempt to run water the entire length of a field if it is more than 500 feet, as the upper end will become too wet before the water reaches the lower end. The slope naturally determines the distance between cross ditches and where this is considerable they can be spaced at greater intervals, but on flatter areas 300 feet or even less will be found sufficient.

Cross ditches are made by simply plowing out dead furrows with a good sized plow, either single or double moldboard. If parallel head ditches are placed along each cross ditch it will result in the destruction of too many beets, so that here the water is run to the lowest point on the cross ditch and turned into a section of rows. When these are irrigated a dam is thrown in and the water diverted to the next section.

### TOO MUCH WATER INJURIOUS

Excessive Irrigation Leaches Soil or Fills It With Water to Exclusion of Air—Tillage Remedies.

The lavish use of water is the direct cause of many serious irrigation difficulties. In fact, some of the most profitable and highly developed irrigation farming in this country owes its existence and prosperity to a scarcity of water supply. So long as a farmer has an abundance of water he almost invariably yields to the temptation to use it freely, even though he gets no increase in returns as a result. Where crop production is dependent on rainfall and particularly when rainfall is barely sufficient, farmers soon learn the value of careful and thorough tillage both in preparing the land for a crop and later whenever intertillage is possible, says Field and Farm.

But the irrigation farmer with an adequate water supply is slow to appreciate the fact that thorough tillage methods abundantly repay their cost. In our new regions particularly the tendency to neglect tillage is pronounced. Weeds are usually not abundant, and one of the most obvious reasons for good tillage is lacking. The fact remains, however, that in irrigation farming good tillage pays whether the water supply is abundant or scanty. Excessive irrigation leaches the soil or fills it with water to the exclusion of air and consequently interferes with the activities of the micro-organisms upon which plants depend for their food supply.

Good tillage produces opposite results. A wet soil remains cold while a well-tilled soil warms up quickly and favors plant growth. It is not sufficient to keep down the weeds by cultivation. With intertilled crops cultivation should follow irrigation and the land should be irrigated no more frequently than is absolutely necessary. This much is true even with abundant irrigation water. When the water is scanty there is the added advantage that it can be made vastly more effective if supplemented by tillage.

As a people we have much to learn in the way of water economy. With proper use the irrigation supply of the great majority of our irrigation districts could be used for much larger areas than it covers at present. A more judicious use of the supply would also in many cases result in larger yields to the acre and would permit the use of large areas now kept too wet for crop production through the excessive use of water on adjacent land. Of course no one who has a water right will part with any of it without a big compensation and this may be done in time, but as it is we have splashed all around altogether too much and have wasted our water in riotous irrigation.

#### Sour Milk.

Pigs thrive on sour milk, but soured swill is a different thing.

### MANY ERRORS OF IRRIGATORS

New, as Well as Old Hands, Make Mistake of Not Watering Thoroughly at Outset.

Many new irrigators and, for that matter, some older ones, make the mistake on our heavier clay lands of not irrigating thoroughly enough. It takes time to get enough water into these soils to supply the crop and prevent drying out quickly enough to cause burning or "firing." When corrugations or furrows are used it is often necessary to let the water run from twenty-four to forty-eight hours to sufficiently soak the ground. Salt sage land is usually easier to bring into a good state of till than is the heavier greasewood soil. Good salt-sage land is generally very productive and will often produce good crops of grain or alfalfa the first season. There is usually a small amount of humus or vegetable mold in such soil and, contrary to the usual recommendation, we advise shallow plowing or merely disking the land for the first crop. These heavier soils are

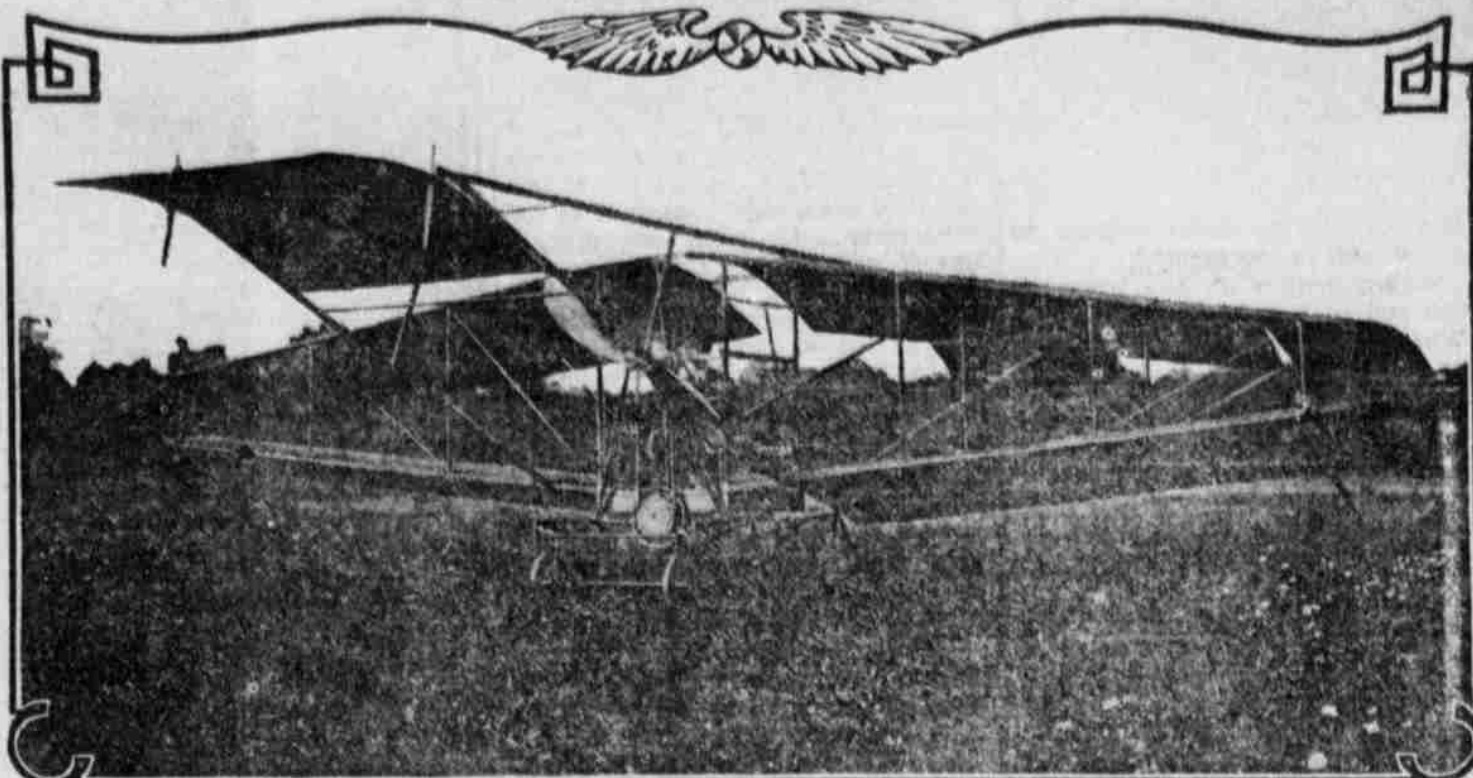
best suited to alfalfa, small grain and sugar beets. It is not wise to grow sugar beets on them until a crop of alfalfa has been plowed in.

#### Irrigate Grain Fields.

It sometimes occurs that grain fields must be irrigated in order to germinate the seed. This is generally considered as bad practice. The irrigating of land after it has been sown and before the grain comes up generally causes the ground to crust and the young plants have great difficulty in breaking through. This may be obviated by harrowing after the irrigating. The harrowing breaks the crust and pulverizes the surface nicely, leaving the field in good condition.

Weeds should be eradicated early, to prevent their maturing and supplying seed for another year's crop. The amount of work required to achieve this will be less if accomplished early. A better physical and chemical condition of the soil is also insured, and this may mean a great deal during a critical period toward securing the highest possible crop yield.

## SOLVES PROBLEM OF AUTOMATIC EQUILIBRIUM



THE CHRISTMAN FLYING MACHINE

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THE government authorities are anxiously awaiting further tests of the Christman flying machine with a view to purchasing some of these remarkable aeroplanes for military use. The wonderful feature of this device of Dr. William W. Christman is that it seems to have solved the problem of automatic equilibrium. It is self-balancing in flight, without the use of auxiliary balancing devices of any kind. The harder the wind blows, the stiffer and more stable it becomes, thus eliminating the heretofore great danger of flying in windy weather. The machine is the only one in existence which can "hover" or remain perfectly still in the air when the engine is inoperative. It has a lifting capacity of 1,500 pounds. Seventy-five gallons of gasoline can be carried, giving a range of travel of 300 miles or more without coming to the ground.

## BAR WOMEN AT HUNT

English Sportsman Shows Indignation at Cancellation of Race.

Reference to "Marsports" Demonstrates Fact That Games Calling for Grit and Determination Are Dwindling in Popularity.

London.—The woman's role on the hunting field has been a continual source of discussion among English fox hunters, but the close of the present season sees the subject crop up in a new light.

Point to point races are a regular feature of the winding up of the hunting with most of the packs, and of late years women's races frequently are included in the program. This year the Essex hunt's point to point races were to have included a woman's race, but that event was canceled at the last moment, although five women had entered.

The incident caused speculation in hunting circles, and now the affair gets additional interest from a sporting challenge by Sir Claude de Crespigny, who, although over sixty years old, is a fine, all around sportsman and an adept with the gloves. Sir Claude has sent the following epistle to an Essex paper:

"At the point to point meeting I was informed the women who had in so sporting a spirit entered for the race were furious at the event being struck off the program. I beg to inform them that I share their indignation, and the elimination was without my knowledge or approval.

"So far as I can make out some silly old women, not of female sex, set about worrying the honorable secretary, threatening to absent themselves if the race was left in. What difference would their nonattendance have had on the meeting?

"A much greater sportsman than any of these marsports offered to produce twelve women from his own hunt who would pound any twelve men of any hunt.

"If any of the objectors resent my description of them they will know where to find me."

Sir Claude's reference to twelve

women who would pound any twelve men of any hunt gives a point to the lament raised by a contributor to the Weekly Nation over the decadence of British sport. The games which call for grit and determination, he says, are dwindling in popularity. He especially refers to the fact that while fox hunting attracts larger fields, the standard of horsemanship has not improved among men. This, he thinks, due to the fact that in the rising generation men for the most part devote their attention to motoring rather than horsemanship.

"Fortunately," he continues, "the women seem, upon the whole, to ride better than they used to do, and to be growing keener about it. Plenty of men will, of course, tell you that women who ride across country quite fearlessly do so in almost every instance through ignorance of the danger.

"That theory is a false one. Dozens

of times I have seen women, who well know the risks they ran in taking certain lines of country when the hounds are running hard, give men who were hesitating at an awkward fence a lead over, for woman's intuition and her quickness of thought and decision serve her in the hunting field just as they do elsewhere.

"It is curious, but it may be significant, that while the vast proportion of men of the well-to-do class seem to be satisfied with amusements needing neither nerve nor grit, the women are becoming more addicted to games and forms of sport that call for the risk of limb and sometimes life.

"Whether the fashion of riding astride, which steadily has spread since Mrs. Alex Tweedie set the example, is to be recommended it is hard to say."

When one notes how the women of England are growing taller, stronger and harder, while there is a general tendency toward physical degeneration in men, one wonders if an Amazonian England is a possibility of the future.

## Discover Rest for Weary

Berlin Specialist Claims to Have Found Cure for Tired Feeling—Experiments With Dogs.

Berlin.—Prof. Loewy of the Berlin Agricultural High school, a famous specialist, has arranged so that nobody need ever be tired any more—has found how to inoculate us against that exhaustion of vital energy which we call getting fagged out. Perfectly serious he is about it.

He has discovered that a substance called spermin injected under the skin removes the symptoms of exhaustion and enables weary creatures to go on working long after nature usually cries "Halt!"

Some trained dogs were set like prisoners to run everlastingly uphill over an electrically-driven treadmill. They were kept at this until the poor beasts looked ready to drop with exhaustion and the chemical tests showed that the drain on what constitutes energy in dogs and men was too great to be longer maintained. Then the professor injected large doses of spermin under the dogs' hides.

In three experiments the immediate result was a great recovery from exhaustion and the dogs were set to work again on their treadmill and trotted off, if not as fresh as ever, yet distinctly no longer overtired.

Why spermin produces this extraordinary effect Professor Loewy has not yet ascertained.

### BEGINS A WAR ON MOSQUITO

New Jersey County and Several Railroads Co-Operate to Exterminate Pest.

New York.—Escorted by Commissioner William Delaney of the Hudson county board of health, the Bayonne board of health and Drs. John T. Connolly and Charles J. Larkey of the medical staff of the city have inspected the rendezvous of the Bayonne crop of mosquitoes. They found a few hundred thousand larvae and wrigglers. The breeding places were near the Central railroad tracks.

The Bayonne board decided to ask the council to make a special appropriation at once, so the breeding spots may be destroyed before the mosquitoes get on the wing, which will be about ten days hence. Prof. John B. Smith, state entomologist, has promised to have the state pay half the expense of the fight against the pests in Bayonne.

Commissioner Delaney said a systematic fight would be made throughout the county and that the Pennsylvania, Central and Lehigh Valley railroads would spend about \$35,000 in their share of the work.

#### Mother of Triplets Honored.

London.—According to time-honored custom, King George has forwarded to Mrs. Jackson, wife of a Hull tramwayman, a king's bounty of \$15 that is given to every one giving birth to triplets. Mrs. Jackson now has nine children. The whole town of Hull is proud of the event and is raising a big local fund for her benefit.

#### Cafe Brings \$300,000.

Paris.—The Cafe Anglais was sold the other afternoon at auction for \$300,000 to a Belgian group after spirited bidding. The price per square meter almost equaled that of the highest price obtained for New York city land.

## "Lady" Bootblack is Latest

Parlors to Be Established in All Parts of Gotham to Accommodate Fair Sex.

New York.—Innovations in the form of women shoe shiners are to be introduced to New Yorkers in the near future by the United Shoe Shining company. The women are to shine the shoes of the members of the fair sex in parlors that will be established in all parts of the city for them exclusively.

Other parlors for men will be established in all the principal hotels, congregating places and street corners. At least, the prospectus of the company says so. The company declares it has an authorized capital of \$1,500,000, with shares at one dollar each. The stock is being underwritten at 35 cents a share.

Shoes will be cleaned and polished according to the very latest ideas, the prospectus states, and shabby places will have to give way to "conveniently located, sanitary, orderly and tasteful establishments, where

will be found the very latest newspapers and current literature."

Options on the principal shoe shining parlors have been obtained. It is reported, and new stands will be established as well. The business will be conducted on "chain" lines similar to restaurants and cigar store systems.

#### Sends Twenty Thousand Tulips.

Paris.—The queen of Holland has made a charming gift to Paris. Twenty thousand magnificent tulips, of all sizes, kinds and colors arrived from the celebrated collection at The Hague, and have been planted at Bagatelle, Bois de Boulogne, where for a time the beautiful queen of France, Marie Antoinette, lived in seclusion. Bagatelle is famous for its tulips, of which there are 100,000 in the ground.

#### Not Everything.

"You play poker as though it were everything in life." "But it isn't. There's a limit to everything and the kind of poker I play has no limit."